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20. Explain the effects of the hurricane "dome. The storm surge is the dome of water (very high waves) that come when a hurricane makes landfall or comes onto land. This is caused by the high winds. (Remember wind makes waves).

21. Explain all consequences that may occur on land if evaporation over the ocean decreased.
If evaporation decreased from the ocean, then there would be less precipitation over the ocean and on land.

22. Explain characteristics of a tropical climate.
Tropics are just north or south of the equator. **They are typically warm and moist.**
Some areas in the tropics can have warm and wet or warm and wet or dry depending on the seasonal rains.

23. What weather condition are you likely to experience because land and water heat and cool at different rates? Local winds are caused by differences in hear and cooling rates between water and land. The sea breeze and land breezes are local winds.

24. Explain why Georgia is warm in the summer and cold in the winter. Georgia is warm in the summer, because the northern hemisphere is more pointed toward the sun in the summer. In the summer we get more direct angle of sunlight and the photoperiod (length of day time) is longer.
We get cold in the winter because the northern hemisphere is pointed away from the sun in the winter. In the winter we get indirect (less direct) angle of sunlight and the photoperiod is shorter.

25. Explain how a coastal city would have a different climate than a landlocked city.
Coastal cities usually have milder (not as extreme hot or cold) climate compared to cities that are surrounded by a lot of land (landlocked). This is because the ocean cools down slower and holds on to heat longer. So cities near the ocean in the winter are not as cold. In the summer the opposite occurs. Cities near the ocean are cooler as the ocean heats up slower than the land.

26. Draw and label the position and tilt of the earth while revolving around the sun during all seasons.

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14. Explain in detail the weather conditions needed for the following storms: thunderstorm, lightning, tornado, and hurricane.
Any storm is a disturbance in the atmosphere.
For a **thunderstorm** to develop the hot air rises and moisture condenses into tall cumulonimbus clouds. Thunderstorms develop mostly when it is hot and humid.
Lightning forms as positive and negative charges connect between clouds, within clouds, or between clouds and ground.
Thunder is the sound as the air rapidly expands during a lightning bolt.
Tornadoes happen as horizontal wind move vertical and form a funnel that touches the ground in a severe thunderstorm
Hurricanes are when tropical storm reach 74mph or 119 km/h wind speeds. These develop over warm tropical waters in the summer and early fall.

15. Explain the causes of thunder. Thunder is the sound of lightning. It is due to the rapid expansion of the super- heated (30,000° C) air from a lightning bolt.

16. Explain in detail the types of air masses and where those air masses are located.
Continental air masses form over land. They are dry
Maritime air masses form over water. They are moist or humid.

Tropical air masses form near the equator and are warm or hot
Polar air masses form near the poles and are cool or cold.

We combine these names to make four major air masses
Continental polar
Continental tropical
Maritime polar
Maritime tropical

17. How fast must the winds be in a tropical storm for the storm to be classified as a hurricane?
74 m/h (miles per hour) or 119 km/h (kilometers per hour)

18. Explain how a hurricane can gain strength and how it can weaken.
Hurricanes get their energy from warm ocean water that allows humidity to add to the storm.
Hurricanes loose strength or weaken over cooler ocean water or land.

19. Where does a hurricane's energy come from? Transfer of heat from the ocean to the atmosphere. This evaporation of warm ocean water builds more clouds and thunderstorms in the hurricane storm system.